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ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/2
19315B MLRS, MISSILE NUMBERS V-13-003, V-15-002, ROUND NUMBERS --ETC(U)
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METEOROLOGICAL DATA REPORT
19315B MLRS
Missile Numbers V-13-003, V-15-002
Round Numbers V-179/AT-7, V-180/AT-8
3 Aug 1981

by

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ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

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INTRODUCTION

19315B MLRS, Missile Numbers V-13-003 and V-15-002, Round Numbers V-179/AT-7 and V-180/AT-8, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1441:52 and 1536:16 MDT, 03 Aug 1981. The scheduled launch times were 1430 and 1530 MDT.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations.

a. Surface:

(1) Standard surface observations to include pressure, temperature, ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind speed and direction, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provide in the launch control room.

b. Upper Air:

(1) Low level wind data were obtained from Pilot-Balloon observations at:

SITE AND ALTITUDE

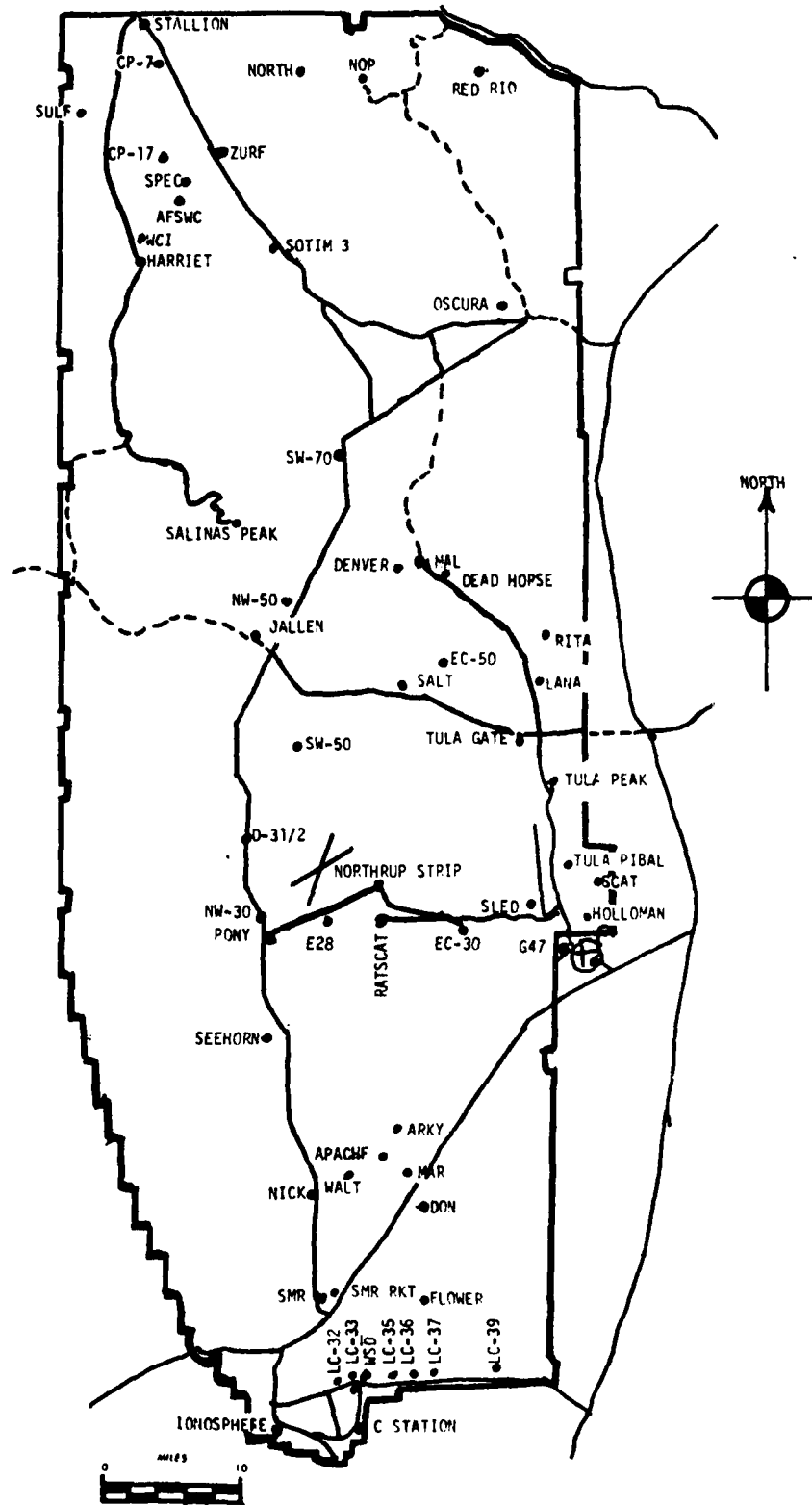
LC-33	2 KM
SMR	2 KM
SMR	2 KM

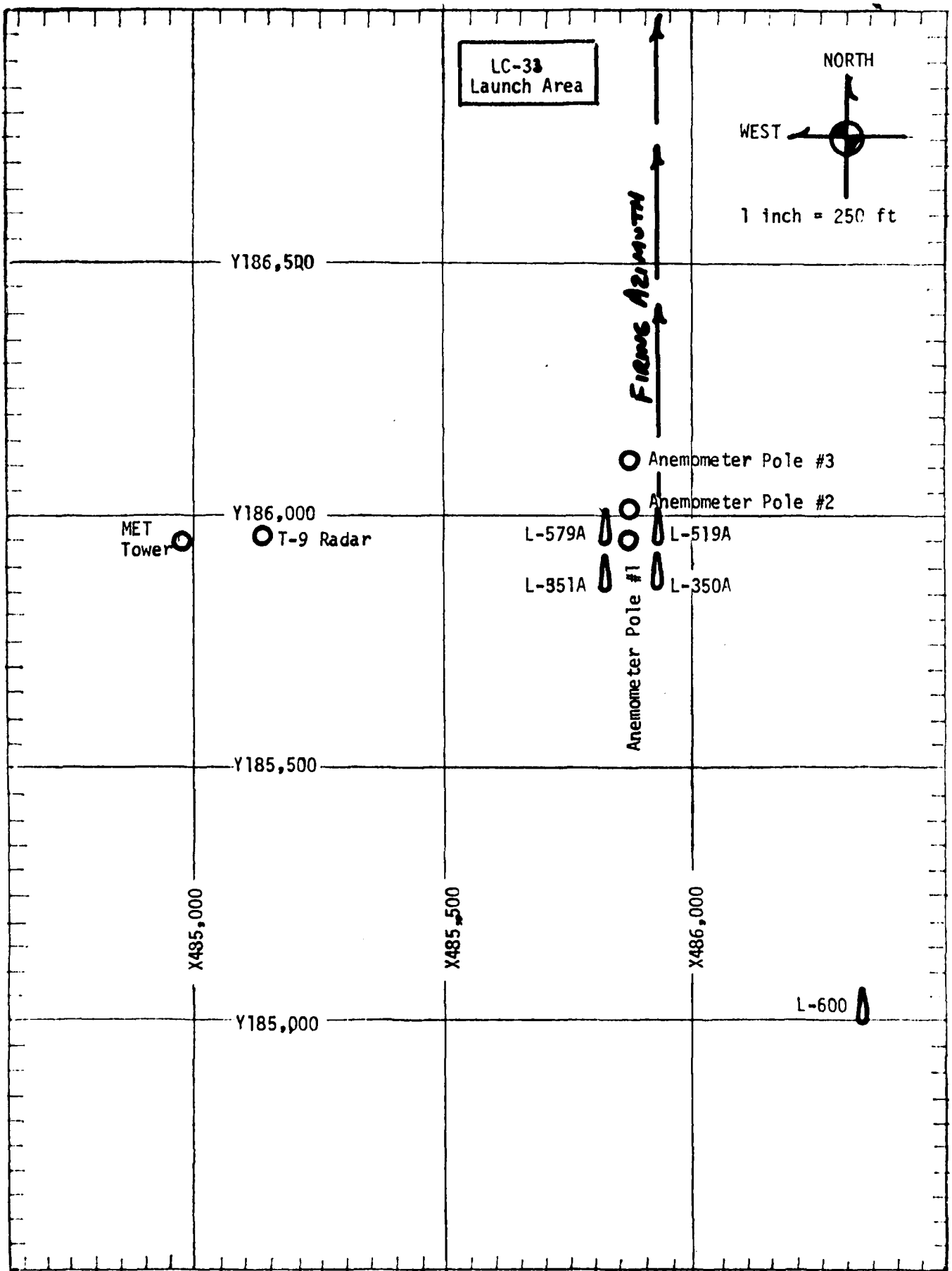
(2) Air structure data (rawinsonde) were collected at the following Met Sites:

SITE AND TIME

WSD	1130 MDT
LC-37	1230 MDT
WSD	1330 MDT
LC-37	1430 MDT
WSD	1530 MDT

WSMR METEOROLOGICAL SITES





PROJECT SURFACE OBSERVATION

STATION LC-33									
TABLE 1		DATE 03 DAY		Aug 1981 MONTH YEAR		X= 485,135.76 Y= 185,919.24 H= 3,988.60			
TIME M D I	PRESSURE mbs	TEMPERATURE OF °C	DEW POINT OF °C	RELATIVE HUMIDITY %	DENSITY gm/m ³	DIRECTION degs	WIND SPEED kts	CHARACTER kts	VISIBIL- ITY
1443	876.7	33.8	17.8	39	984	120	05		30
1537	876.3	28.9	18.0	52	999	245	12		30

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS
	1st LAYER		2nd LAYER		3rd LAYER		
	AMT	TYPE	HGT	AMT	TYPE	HGT	
	3	CU	6,000	1	CI	25,000	
	5	CB	6,000	1	AC	12,000	1 CI 25,000

PSYCHROMETRIC COMPUTATION

TIME: MDT	1443	1537
DRY BULB TEMP.	33.8	28.9
WET BULB TEMP.	22.3	21.1
WET BULB DEPR.	11.5	07.8
DEW POINT	17.8	18.0
RELATIVE HUMID.	39	52

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS
1443 MDT

POLE #1 X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL			POLE #2 X485,874.93 Y186,012.00 H4033.57 53.0 ft. AGL			POLE #3 X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	073	03	T-30	075	02	T-30	086	04
T-20	070	03	T-20	078	02	T-20	092	01
T-10	069	03	T-10	080	01	T-10	055	02
T0.0	050	02	T0.0	C A L M		T0.0	057	03
T+10	049	02	T+10	C A L M		T+10	085	07

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	125	05	T-30	120	04
T-20	117	05	T-20	103	06
T-10	115	04	T-10	100	07
T0.0	105	06	T0.0	105	06
T+10	090	07	T+10	104	07

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	117	05	T-30	091	06
T-20	104	06	T-20	078	07
T-10	097	07	T-10	075	05
T0.0	096	06	T0.0	081	07
T+10	098	08	T+10	095	06

TABLE 4

LC-33 FIXED POLE ANEMOMETER MEASURED WINDS
1537 MDT

POLE #1 X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL			POLE #2 X485,874.93 Y186,012.00 H4033.57 53.0 ft. AGL			POLE #3 X485,877.29 Y186,116.86 H4063.92 83.6 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T ₃₀	M I S G	17	T ₃₀	259	13	T ₃₀	270	13
T ₂₀	M I S G	15	T ₂₀	248	10	T ₂₀	260	14
T ₁₀	M I S G	15	T ₁₀	251	14	T ₁₀	256	17
T ₀	M I S G	13	T ₀	244	17	T ₀	252	12
T ₁₀	M I S G	17	T ₁₀	242	13	T ₁₀	254	19

TABLE 5

LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T ₃₀	252	13	T ₃₀	251	18
T ₂₀	242	16	T ₂₀	252	16
T ₁₀	251	13	T ₁₀	256	17
T ₀	245	12	T ₀	252	19
T ₁₀	265	13	T ₁₀	252	16

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T ₃₀	242	18	T ₃₀	244	17
T ₂₀	241	20	T ₂₀	243	16
T ₁₀	240	20	T ₁₀	246	17
T ₀	239	19	T ₀	244	18
T ₁₀	236	18	T ₁₀	247	17

TABLE 6

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 03 Aug 81

SITE: LC-33
 TIME: 1443 MDT
 WSTM COORDINATES:
 X= 484,837.34
 Y= 184,124.44
 H= 3,975.60

SITE: SMR
 TIME: 1443 MDT
 WSTM COORDINATES:
 X= 472,257.00
 Y= 214,426.00
 H= 3,999.00

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	080	04
150	072	08
210	078	10
270	092	10
330	110	09
390	112	08
500	106	06
650	100	04
800	117	01
950	329	01
1150	010	02
1350	060	05
1550	020	04
1750	030	07
2000	036	10

Data obtained from Single Theodolite
 Tracked Pilot-Balloon Observation.

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	090	02
150	041	04
210	011	02
270	209	02
330	343	02
390	011	01
500	053	02
650	132	03
800	027	04
950	022	07
1150	007	08
1350	008	08
1550	008	08
1750	007	11
2000	005	09

Data obtained from T-9 Radar Tracked
 Pilot-Balloon Observation.

TABLE 7

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 03 Aug 81

SITE: SMR
TIME: 1537 MDT
WSTM COORDINATES:
X= 472,257.00
Y= 214,426.00
H= 3,999.00

SITE:
TIME:
WSTM COORDINATES:
X=
Y=
H=

<u>LAYER MIDPOINT METERS AGL</u>	<u>DIRECTION DEGREES</u>	<u>SPEED KNOTS</u>
SURFACE	260	08
150	232	11
210	207	21
270	204	18
330	206	18
390	202	20
500	204	16
650	226	12
800	206	11
950	185	11
1150	029	07
1350	074	12
1550	047	08
1750	040	06
2000	017	08

<u>LAYER MIDPOINT METERS AGL</u>	<u>DIRECTION DEGREES</u>	<u>SPEED KNOTS</u>
SURFACE		
150		
210		
270		
330		
390		
500		
650		
800		
950		
1150		
1350		
1550		
1750		
2000		

TABLE 8

AIMING AND T-TIME COMPUTER MET MESSAGES

WSD 1130 MDT	LC-37 1230 MDT	WSD 1330 MDT	LC-37 1430 MDT
METCM1324064	METCM1324063	METCM1324064	METCM1324063
031750122879	031850124876	031950122878	032050124874
00231004 30570879	00000000 30710876	00124007 30910878	00178004 30840874
01292010 30420869	01173004 30530866	01201013 30770868	01105006 30700865
02350007 30080845	02248003 30150842	02127006 30440844	02128001 30400841
03478006 29730807	03323005 29780804	03158007 29940807	03484001 30010804
04606008 29370762	04578008 29390759	04508006 29420762	04549004 29530759
05001008 29030718	05622008 29110716	05600009 29020719	05566006 29070716
06630010 28740677	06015008 28820675	06022008 28670677	06625007 28690675
07603007 28370638	07638006 28470636	07003007 28250638	07632008 28300636
08013007 27970601	08004006 28050599	08635008 27900600	08628010 27890598
09633008 27560565	09026010 27640564	09020012 27490565	09634014 27540563
10623007 27220531	10639010 27250530	10610007 27100530	10611011 27140529
11634008 26890498	11621007 26920497	11611008 26710498	11586012 26820496
12043006 26460453	12625008 26530452	12611006 26370452	12606008 26510451

WSD 1530 MDT
 METCM1324064
 032150122876
 00444010 30700876
 01454020 30530866
 02421011 30120842
 03274004 29920805
 04200006 29520760
 05147003 28990717
 06042013 28540676
 07021013 28130636
 08009014 27810599
 09006013 27500563
 10001012 27120529
 11005016 26740497
 12083006 26430452

GEODITIL COORDINATES
 32.40043 LAT DEG
 106.57033 LONG DEG

SIGNIFICANT LEVEL DATA
 2150020.01
 WHITE SANDS

STATION ALTITUDE 3489.00 FEET MSL
 3 AUG. 61 1130 HRS MDT
 ASCENSION NO. 501

TABLE 9

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
678.5	3989.0	30.2	10.2	43.0
850.0	4951.7	26.0	13.2	45.0
793.2	6937.5	20.7	11.2	55.0
703.2	10325.8	14.5	5.0	53.0
660.8	12047.1	11.5	5.2	65.0
633.6	13189.7	8.7	1.4	60.0
599.4	14745.1	5.1	-1.8	61.0
556.4	16684.3	.1	-1.5	69.0
515.0	18713.1	-3.2	-6.1	69.0
503.6	19294.7	-5.0	-7.1	85.0
500.0	19480.5	-5.0	-8.1	79.0
475.0	20403.9	-6.9	-10.1	78.0
464.4	21382.8	-7.9	-15.3	55.0
444.4	22504.9	-10.1	-16.0	62.0
429.4	23373.9	-11.5	-23.0	35.0
414.6	24258.5	-11.7	-25.7	30.0
400.0	25158.5	-14.0	-24.2	41.0
393.0	25598.9	-15.2	-20.4	64.0
371.6	26985.3	-17.9	-22.7	66.0
358.4	27873.9	-19.1	-20.5	43.0
338.8	29244.5	-21.9	-32.9	36.0
307.6	31557.0	-28.1	-30.5	44.0
300.0	32147.6	-28.8	-39.1	36.0

STATION ALTITUDE 3989.00 FEET MSL
3 AUG. 61 1130 HRS MDT
ASCENSION, I.O. 501

UPPER AIR DATA
2150020001
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 10

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES (TN)	SPEED KNOTS	
3989.0	870.5	30.2	16.2	43.0	1000.6	681.2	130.0	4.1	1.000299
4000.0	870.2	30.2	16.2	43.0	1000.6	681.2	130.5	4.1	1.000299
4500.0	865.3	28.0	14.6	44.1	991.4	678.5	159.2	3.3	1.000291
5000.0	840.6	25.9	13.1	45.2	981.9	675.9	191.7	3.6	1.000283
5500.0	835.9	24.5	12.7	47.8	969.4	674.4	213.4	4.8	1.000279
6000.0	819.5	23.2	12.3	50.3	957.0	672.9	239.8	4.8	1.000275
6500.0	805.4	21.9	11.8	52.8	944.8	671.3	276.7	5.3	1.000271
7000.0	791.4	20.6	11.2	55.0	932.6	669.6	300.0	6.5	1.000266
7500.0	777.5	19.7	10.3	54.7	919.3	668.7	318.7	7.0	1.000260
8000.0	765.8	18.8	9.4	54.4	906.2	667.6	333.1	7.7	1.000254
8500.0	750.3	17.8	8.4	54.1	893.3	666.4	344.6	7.8	1.000249
9000.0	737.1	16.9	7.5	53.8	880.5	665.3	354.4	8.0	1.000243
9500.0	724.1	16.0	6.6	53.5	868.0	664.2	358.9	8.0	1.000238
10000.0	711.4	15.1	5.7	53.2	855.6	663.0	1.7	8.1	1.000232
10500.0	698.8	14.2	5.1	54.2	843.2	662.0	359.7	8.5	1.000228
11000.0	686.3	13.3	5.2	57.7	830.5	661.0	356.4	8.8	1.000226
11500.0	674.0	12.5	5.2	61.2	818.0	660.0	348.1	8.6	1.000223
12000.0	661.9	11.6	5.2	64.7	805.6	659.0	341.7	8.4	1.000221
12500.0	650.0	10.4	3.7	63.0	794.9	657.5	340.5	7.6	1.000215
13000.0	638.2	9.2	2.0	60.8	784.2	656.0	342.0	7.1	1.000208
13500.0	626.6	8.0	.8	60.2	773.4	654.5	348.7	6.9	1.000203
14000.0	615.1	6.8	-.3	60.5	762.5	653.1	356.5	7.1	1.000199
14500.0	603.8	5.7	-1.3	60.8	751.8	651.6	4.1	7.7	1.000195
15000.0	592.7	4.4	-1.6	64.7	741.2	650.2	4.7	8.0	1.000192
15500.0	581.7	3.2	-1.4	71.9	730.6	648.7	1.9	8.1	1.000190
16000.0	570.9	1.9	-1.4	79.1	720.5	647.2	357.8	7.9	1.000188
16500.0	560.3	.6	-1.4	86.3	710.4	645.7	353.1	7.6	1.000186
17000.0	549.7	-.4	-2.5	85.9	699.7	644.5	353.6	7.6	1.000182
17500.0	537.4	-1.2	-4.1	81.0	688.6	643.4	355.2	7.6	1.000177
18000.0	529.2	-2.0	-5.7	76.0	676.0	642.4	355.8	7.6	1.000172
18500.0	517.2	-2.9	-7.3	71.1	667.4	641.3	358.1	7.5	1.000167
19000.0	509.3	-4.1	-7.5	76.9	657.0	639.9	357.1	7.3	1.000165
19500.0	499.6	-5.0	-8.1	79.0	647.5	638.7	356.9	7.2	1.000162
20000.0	490.6	-5.7	-8.9	78.6	638.9	637.8	353.5	7.1	1.000158
20500.0	480.6	-6.5	-9.6	78.2	628.4	636.9	355.5	6.9	1.000155
21000.0	471.4	-7.2	-11.7	70.2	618.3	635.9	4.0	6.6	1.000151
21500.0	462.3	-8.1	-15.4	55.7	608.7	634.7	16.4	6.5	1.000145
22000.0	453.3	-9.1	-15.7	58.9	597.2	633.5	29.0	6.7	1.000143
22500.0	444.5	-10.1	-16.0	62.0	587.7	632.3	34.1	6.6	1.000141
23000.0	435.8	-10.9	-20.1	46.6	574.3	631.2	37.5	6.2	1.000136

STATION ALTITUDE 3989.00 FEET MSL
3 AUG. 61 1130 HRS MDT
ASCENSION I.O. 001

UPPER AIR DATA
2150020501
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT UEG
106.37033 LONG UEG

TABLE 10 CONT

GEOMETRIC ALTITUDE FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND M/SEC	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
23500.0	427.3	-11.5	34.3	568.5	630.4	45.0	4.9	1.000131
24000.0	410.9	-11.6	31.5	557.6	630.2	59.2	3.5	1.000129
24500.0	410.6	-12.3	33.0	548.0	629.4	62.5	3.2	1.000126
25000.0	402.5	-13.6	39.1	539.0	627.9	62.0	2.8	1.000125
25500.0	394.6	-14.9	58.8	531.7	626.4	23.9	2.6	1.000125
26000.0	380.7	-16.0	21.1	523.2	625.1	359.3	3.7	1.000123
26500.0	374.0	-17.0	65.3	514.7	623.9	351.4	4.9	1.000121
27000.0	371.4	-17.9	65.6	506.4	622.7	358.1	6.0	1.000118
27500.0	363.9	-18.6	52.7	497.6	621.8	12.7	7.5	1.000115
28000.0	350.5	-19.4	42.4	489.1	620.8	23.8	9.6	1.000112
28500.0	344.3	-20.4	39.8	481.2	619.5	31.0	12.2	1.000110
29000.0	342.2	-21.4	37.2	473.3	618.3	32.8	13.2	1.000108
29500.0	335.2	-22.6	36.9	465.8	616.8	34.3	13.9	1.000106
30000.0	320.3	-23.9	38.6	458.7	615.1	35.6	12.9	1.000104
30500.0	321.5	-25.3	40.3	451.6	613.5	37.9	11.7	1.000103
31000.0	314.8	-26.6	42.1	444.7	611.8	41.9	10.4	1.000101
31500.0	300.3	-27.9	43.8	437.9	610.1			1.000099
32000.0	301.9	-28.6	38.0	430.0	609.3			1.000097

STATION ALTITUDE 3999.00 FEET MSL
 3 AUG. 61 1130 HRS EDT
 ASCENSION NO. 561

MANDATORY LEVELS
 2150020501
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LONG DEG

TABLE 11

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT DEGREE	PERCENT		DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	4948.	26.0	13.2	45.		188.8	5.5
800.0	6689.	21.4	11.6	54.		287.2	6.0
750.0	8515.	17.8	8.4	54.		345.2	7.8
700.0	10442.	14.3	5.1	54.		359.9	8.5
650.0	12486.	10.4	3.7	63.		340.5	7.7
600.0	14656.	5.3	-1.6	61.		6.4	8.0
550.0	16967.	-4	-2.4	86.		353.5	7.6
500.0	19453.	-5.0	-8.1	79.		357.0	7.2
450.0	22152.	-9.5	-15.8	60.		32.0	8.8
400.0	25116.	-14.0	-24.3	41.		51.2	2.7
350.0	28401.	-20.3	-30.5	40.		30.3	11.9
300.0	32082.	-28.8	-39.1	36.			

STATION ALTITUDE 4051.37 FEET MSL
 3 AUG. 61 1230 HRS MDI
 ASCENSION 110. 174

SIGNIFICANT LEVEL DATA
 2150160174
 LC-37

GEODEIC COORDINATES
 32.40175 LAT DEG
 106.31252 LONG DEG

TABLE 12

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
875.7	4051.4	31.1	18.1	46.0
850.0	4924.0	26.7	14.8	48.0
779.2	7422.9	20.0	12.5	62.0
730.2	9256.8	16.8	8.8	59.0
700.0	10438.7	15.2	6.5	56.0
654.2	12314.8	11.8	5.6	57.0
590.6	15699.1	5.2	-2.1	59.0
573.0	15909.7	3.2	-3.1	63.0
547.0	17141.9	-2	-2.7	83.0
500.0	19492.1	-4.5	-8.0	73.0
478.0	20655.1	-6.5	-9.1	82.0
446.4	22407.8	-9.0	-12.0	75.0
430.6	23324.9	-9.9	-20.3	42.0
400.0	25187.6	-12.5	-23.0	41.0
385.8	26093.4	-14.2	-24.8	40.0
371.2	27054.3	-15.8	-21.8	60.0
343.2	28988.1	-19.4	-26.3	45.0
300.0	32238.2	-26.1	-35.4	41.0

STATION: ALTITUDE 4051.37 FEET MSL
3 AUG. 81 1230 HRS MDT
ASCENSION NO. 174

UPPER AIR DATA
2150100174
LC-37

GEODETIC COORDINATES
32.40175 LAT UEG
106.31232 LONG UEG

TABLE 13

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SOUND SPEED KNOTS	WIND DATA DIRECTION (IN) SPEED KNOTS	INDEX OF REFRACTION
4051.4	875.7	31.1	18.1	46.0	993.7	682.6	0.0	1.000307
4500.0	862.4	28.8	16.4	47.0	986.7	679.8	216.0	1.000298
5000.0	847.8	26.5	14.7	48.4	978.2	676.4	216.0	1.000289
5500.0	833.1	25.2	14.4	51.2	965.7	675.4	216.0	1.000285
6000.0	818.8	23.8	14.0	54.0	953.4	673.8	216.0	1.000281
6500.0	804.6	22.5	13.5	56.8	941.3	672.3	216.0	1.000277
7000.0	790.8	21.1	13.0	59.6	929.4	670.7	226.1	1.000273
7500.0	777.1	19.9	12.3	61.9	917.4	669.2	307.2	1.000268
8000.0	763.4	19.0	11.3	61.1	904.3	668.1	322.6	1.000261
8500.0	750.0	18.1	10.3	60.2	891.4	667.0	329.9	1.000255
9000.0	736.9	17.2	9.3	59.4	878.6	665.4	335.4	1.000248
9500.0	723.9	16.5	8.3	58.4	865.7	664.9	343.8	1.000242
10000.0	711.1	15.8	7.3	57.1	852.6	664.0	353.7	1.000237
10500.0	698.5	15.1	6.4	56.0	839.8	663.1	3.6	1.000231
11000.0	686.0	14.2	5.6	56.3	827.5	662.0	7.6	1.000226
11500.0	673.7	13.3	4.8	56.6	815.4	660.9	6.7	1.000222
12000.0	661.7	12.4	4.1	56.8	803.5	659.8	3.0	1.000217
12500.0	649.8	11.4	3.2	57.1	792.0	658.6	357.5	1.000212
13000.0	637.9	10.2	2.2	57.5	781.1	657.1	358.1	1.000208
13500.0	626.3	9.0	1.1	57.9	770.2	655.7	359.2	1.000203
14000.0	614.9	7.8	.1	58.2	759.6	654.2	1.3	1.000199
14500.0	603.7	6.6	-0.9	58.6	749.1	652.8	4.0	1.000195
15000.0	592.8	5.4	-1.9	58.9	738.7	651.3	7.8	1.000190
15500.0	581.8	4.2	-2.6	61.0	728.4	649.4	11.0	1.000187
16000.0	571.1	3.0	-3.1	64.5	718.2	648.4	13.9	1.000184
16500.0	560.4	1.6	-2.8	72.6	708.2	646.8	11.2	1.000183
17000.0	549.9	.2	-2.7	80.7	698.5	645.2	7.1	1.000181
17500.0	539.6	-0.9	-3.6	81.5	688.0	643.9	1.2	1.000177
18000.0	529.3	-1.8	-4.9	79.3	677.4	642.8	353.7	1.000173
18500.0	519.3	-2.7	-6.1	77.2	667.0	641.6	353.9	1.000169
19000.0	509.5	-3.6	-7.4	75.1	656.7	640.4	351.6	1.000165
19500.0	499.8	-4.5	-8.6	73.1	646.6	639.3	351.1	1.000161
20000.0	490.3	-5.4	-8.8	76.9	636.3	638.3	350.6	1.000158
20500.0	480.9	-6.2	-9.0	80.8	626.1	637.3	351.5	1.000156
21000.0	471.6	-7.0	-9.7	80.6	615.8	636.3	352.8	1.000153
21500.0	462.5	-7.7	-10.8	78.0	605.6	635.4	353.4	1.000149
22000.0	453.6	-8.4	-11.8	76.6	595.6	634.3	353.2	1.000146
22500.0	444.8	-9.1	-13.2	71.7	585.7	633.7	353.6	1.000142
23000.0	436.1	-9.6	-17.2	53.7	575.7	632.9	353.0	1.000137
23500.0	427.6	-10.1	-20.6	41.9	565.8	632.1	6.9	1.000133

WIND DATA
2150160174
LC-37

WIND DATA
2150160174
LC-37

STATION ALTITUDE 4051.37 FEET MSL
3 AUG 61 1230 HRS MDT
ASCENSION I.O. 174

WIND DATA
2150160174
LC-37

WIND DATA
2150160174
LC-37

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TH)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
24000.0	419.2	-10.8	41.6	556.2	631.3	16.4	5.8	1.000130
24500.0	411.0	-11.5	41.4	546.8	630.4	29.0	5.0	1.000128
25000.0	403.0	-12.2	41.1	537.6	629.6	34.8	4.4	1.000125
25500.0	395.0	-13.1	40.7	528.7	628.5	34.1	3.8	1.000123
26000.0	387.2	-14.0	40.1	520.2	627.4	30.5	3.4	1.000121
26500.0	379.6	-14.9	48.5	511.5	626.4	21.1	4.0	1.000119
27000.0	372.0	-15.7	58.9	502.9	625.4	14.3	4.6	1.000118
27500.0	364.6	-16.6	56.5	494.6	624.3	16.0	5.8	1.000116
28000.0	357.2	-17.6	52.7	486.5	623.1	17.7	7.0	1.000113
28500.0	350.1	-18.5	48.8	478.5	621.9	23.2	7.8	1.000111
29000.0	343.0	-19.4	45.0	470.7	620.4	32.5	8.3	1.000108
29500.0	336.0	-20.5	44.4	462.9	619.5	40.6	9.0	1.000106
30000.0	329.1	-21.5	43.8	455.3	618.2	38.4	11.0	1.000104
30500.0	322.4	-22.5	43.1	447.9	616.9	36.8	13.1	1.000102
31000.0	315.8	-23.5	42.5	440.5	615.8			1.000100
31500.0	309.3	-24.6	41.9	433.3	614.3			1.000099
32000.0	303.0	-25.6	41.3	426.2	613.1			1.000097

STATION ALTITUDE 4051.37 FEET MSL
3 AUG. 61 1230 HRS MDT
ASCENSION, NO. 174

MANDATORY LEVELS
21501801174
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LONG DEG

TABLE 14

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	4920.	26.7	14.8	40.	216.0	.6
800.0	6067.	22.0	13.3	50.	216.0	1.7
750.0	8496.	18.1	10.3	60.	329.9	8.6
700.0	10428.	15.2	6.5	50.	2.2	7.7
650.0	12479.	11.4	3.2	57.	357.7	6.5
600.0	14656.	6.2	-1.3	59.	5.4	7.0
550.0	16975.	.2	-2.7	81.	7.1	9.1
500.0	19464.	-4.5	-8.6	73.	351.1	7.5
450.0	22168.	-8.7	-12.2	70.	353.1	8.6
400.0	25145.	-12.5	-23.0	41.	34.6	4.2
350.0	28454.	-18.5	-26.6	49.	23.1	7.8
300.0	32172.	-26.1	-35.4	41.		

GEOMETRIC COORDINATES
32.40043 LAT DEG
106.57053 LONG DEG

SIGNIFICANT LEVEL DATA
2150020503
WHITE SANDS

STATION ALTITUDE 3389.00 FEET MSL
3 AUG. 63 1337 HRS P. DT
ASCENSION NO. 553

TABLE 15

PRESSURE	GEOMETRIC ALTITUDE	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
MILLIBARS	MSL FEET		
877.7	5089.0	33.5	37.0
850.0	4936.5	29.6	42.0
786.6	7180.3	21.6	52.0
759.8	8202.7	19.9	60.0
700.0	10461.7	13.6	56.0
670.2	11337.7	12.7	60.0
660.8	12052.9	10.1	60.0
601.0	14625.1	4.8	63.0
592.4	15011.9	4.4	65.0
567.4	16160.6	.9	67.0
551.2	16925.6	-5	85.0
543.2	17309.4	-2.3	86.0
511.0	18902.6	-4.1	72.0
500.0	19465.2	-6.7	62.0
487.6	20109.2	-8.3	64.0
472.2	20930.5	-7.7	60.0
446.6	22347.7	-11.7	80.0
442.2	22597.7	-11.3	67.0
434.6	23036.7	-10.0	42.0
400.0	25127.1	-13.9	48.0
384.0	26142.2	-16.9	59.0
341.8	28487.9	-22.6	37.0
360.0	32102.8	-28.0	38.0

STATION ALTITUDE 3489.00 FEET NSL
3 AUG. 51 1330 HRS MDI
ASCENSION NO. 303

UPPER AIR DATA
2150020500
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT N 66
106.37033 LONG W 66

TABLE 16

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND M/SEC	DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
3489.0	871.7	33.5	37.0	988.9	045.0	70.0	7.0	1.000298
4000.0	877.4	33.5	37.1	988.6	045.0	70.0	7.0	1.000298
4500.0	862.7	31.4	39.7	978.9	042.6	70.9	6.3	1.000293
5000.0	840.1	29.4	42.3	969.1	040.2	72.0	5.6	1.000288
5500.0	835.6	27.6	44.5	958.4	038.1	73.4	4.9	1.000283
6000.0	819.3	25.8	46.7	947.9	036.0	75.3	4.2	1.000277
6500.0	805.3	24.0	49.0	937.5	033.9	77.9	3.5	1.000272
7000.0	791.5	22.2	51.2	927.3	031.8	80.1	1.6	1.000266
7500.0	777.8	20.3	54.5	913.9	030.1	82.3	2.1	1.000263
8000.0	764.2	19.4	58.4	904.0	028.6	84.7	5.1	1.000260
8500.0	750.8	18.2	59.5	892.1	027.1	86.9	7.8	1.000254
9000.0	737.5	17.0	59.6	880.2	025.6	89.1	8.1	1.000247
9500.0	724.5	15.9	57.7	868.5	024.1	91.5	8.5	1.000241
10000.0	711.6	14.7	56.8	856.9	022.6	93.7	8.3	1.000234
10500.0	699.0	13.6	56.2	845.3	021.2	96.0	8.7	1.000229
11000.0	686.5	13.0	58.5	833.6	020.7	98.3	8.3	1.000226
11500.0	674.2	12.1	60.0	819.4	019.4	100.6	8.0	1.000222
12000.0	662.1	10.3	60.0	810.2	017.3	102.9	7.7	1.000216
12500.0	650.0	9.2	60.5	798.7	015.4	105.2	7.4	1.000211
13000.0	638.1	8.1	61.1	787.2	013.7	107.5	6.9	1.000207
13500.0	626.5	7.1	61.7	775.7	012.4	109.8	6.9	1.000203
14000.0	615.0	6.1	62.3	764.5	011.2	112.1	7.5	1.000199
14500.0	603.8	5.1	62.9	753.4	010.9	114.4	8.2	1.000195
15000.0	592.7	4.4	64.4	741.3	010.2	116.7	9.0	1.000192
15500.0	581.6	2.9	65.8	731.0	010.3	119.0	9.8	1.000188
16000.0	570.8	1.4	66.7	722.2	010.5	121.3	10.5	1.000184
16500.0	560.2	.3	75.0	711.4	010.2	123.6	10.6	1.000182
17000.0	549.6	-0.8	85.2	700.3	010.4	125.9	10.3	1.000176
17500.0	539.2	-2.5	84.3	692.0	011.9	128.2	8.9	1.000172
18000.0	529.0	-5.1	79.9	680.5	011.1	130.5	7.3	1.000167
18500.0	519.0	-3.6	75.5	669.1	010.4	132.8	6.9	1.000164
19000.0	509.1	-4.6	73.7	658.7	010.2	135.1	6.6	1.000161
19500.0	499.3	-6.8	82.1	651.3	010.5	137.4	7.4	1.000158
20000.0	489.7	-8.0	83.7	642.0	010.0	139.7	8.1	1.000153
20500.0	480.2	-6.0	72.6	629.8	010.0	142.0	8.5	1.000149
21000.0	471.9	-7.9	61.0	617.4	010.0	144.3	8.4	1.000147
21500.0	463.7	-9.3	68.0	605.0	010.3	146.6	7.1	1.000145
22000.0	455.7	-10.7	75.1	600.0	010.0	148.9	5.6	1.000142
22500.0	448.9	-11.5	72.1	592.0	010.7	151.2	4.0	1.000135
23000.0	443.2	-10.1	44.1	575.0	012.2	153.5	2.9	1.000135

STATION ALTITUDE 3989.00 FEET MSL
3 AUG. 61 130 HRS P.M.
ASCENSION I.D. 503

UPPER AIR DATA
2150020050
WHITE JARVIS

GEODETIC COORDINATES
32.40043 LAT UG
106.57033 LONG UG

TABLE 16 CONT

GEODETIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND KIPTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	420.7	-10.9	43.3	560.1	631.3	310.3	2.3	1.000132
24000.0	410.3	-11.8	44.8	557.0	630.1	344.5	2.0	1.000130
24500.0	410.1	-12.7	46.2	548.0	629.0	19.2	3.1	1.000128
25000.0	402.0	-13.7	47.6	539.2	627.9	27.2	4.7	1.000126
25500.0	394.0	-15.0	52.0	531.3	624.2	20.5	6.4	1.000124
26000.0	380.2	-16.5	57.5	523.7	624.4	51.0	7.1	1.000122
26500.0	370.4	-17.6	56.2	515.5	623.0	55.1	7.4	1.000120
27000.0	360.8	-18.6	52.4	507.1	621.6	41.0	7.9	1.000117
27500.0	350.3	-19.6	48.5	490.8	620.5	47.7	8.5	1.000115
28000.0	350.9	-20.6	44.6	490.7	619.3	51.2	9.6	1.000112
28500.0	343.7	-21.6	40.8	482.7	618.6	55.0	10.8	1.000110
29000.0	341.6	-22.6	37.0	474.4	618.8	50.3	12.1	1.000108
29500.0	334.5	-23.6	37.2	460.8	615.6	58.4	13.3	1.000106
30000.0	327.6	-24.5	37.3	458.9	614.4	60.1	13.2	1.000104
30500.0	320.8	-25.5	37.5	451.2	613.2	61.7	12.1	1.000102
31000.0	314.2	-26.5	37.6	443.0	612.0			1.000100
31500.0	307.7	-27.4	37.8	436.1	610.8			1.000099
32000.0	301.3	-28.4	38.0	420.7	609.6			1.000097

STATION ALTITUDE 3989.00 FEET MSL
3 AUG. 61 1300 HRS MDT
ASCENSION NO. 503

HAND COPY LEVELS
2150020005
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

TABLE 17

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	4933.	29.6	15.3	42.	71.8	5.7
800.0	6691.	23.3	12.3	50.	79.2	5.2
750.0	8524.	18.1	10.1	59.	299.8	7.9
700.0	10451.	13.6	5.0	56.	7.0	8.7
650.0	12490.	9.2	2.0	61.	359.5	7.4
600.0	14652.	4.8	-1.6	63.	5.9	8.4
550.0	16961.	-0.8	-2.9	85.	2.4	10.3
500.0	19437.	-6.7	-9.2	82.	342.2	7.3
450.0	22122.	-11.2	-14.3	77.	345.5	5.1
400.0	25084.	-13.9	-22.5	48.	27.6	5.1
350.0	28361.	-21.4	-31.0	41.	53.3	10.6
300.0	32038.	-28.6	-38.4	38.		

STATION ALTITUDE 4051.37 FEET MSL
3 AUG. 61 1430 HRS MDT
ASCENSION IS. 175

SIGNIFICANT LEVEL DATA
2150100175
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LONG DEG

TABLE 18

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
874.2	4051.4	33.2	16.5	37.0
650.0	4880.3	29.7	14.7	40.0
778.2	7439.5	22.5	12.4	53.0
713.4	9999.8	15.5	9.0	65.0
700.0	10428.8	14.6	7.4	62.0
659.8	12065.1	11.0	4.5	64.0
582.4	15445.1	3.2	-3.4	62.0
574.2	15823.3	2.8	-4.0	61.0
541.4	17380.8	-0.8	-5.0	73.0
533.4	17771.7	-1.8	-6.9	68.0
509.4	18971.3	-4.8	-7.7	80.0
500.0	19453.7	-5.0	-9.4	71.0
486.0	20187.2	-6.1	-13.0	55.0
440.8	22689.3	-8.8	-22.3	32.0
425.8	23570.0	-10.0	-22.2	36.0
400.0	25145.2	-13.7	-25.8	35.0
382.8	26239.9	-16.1	-27.7	36.0
376.0	26683.9	-16.6	-24.8	49.0
362.4	27592.4	-18.4	-31.0	32.0
335.8	29452.3	-22.0	-33.3	35.0

STATION ALTITUDE 4051.17 FEET MSL
 3 AUG. 61
 ASCENDING NO. 175

UPPER AIR DATA
 2150130175
 LC-37

GEODETIC COORDINATES
 32.40175 LAT DEG
 106.31232 LONG DEG

TABLE 19

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TH)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
4051.4	874.2	33.2	37.0	985.0	684.7	100.0	4.1	1.000296
4300.0	861.0	31.3	38.6	977.5	682.4	100.8	3.2	1.000290
5000.0	840.5	29.4	40.6	967.6	680.1	102.6	2.1	1.000285
5500.0	832.0	28.0	43.1	955.5	678.5	107.7	1.1	1.000261
6000.0	817.8	26.5	45.7	943.6	676.9	175.2	.2	1.000277
6500.0	803.8	25.1	48.2	931.9	675.3	208.6	.7	1.000273
7000.0	790.1	23.7	50.8	920.5	673.7	280.8	1.2	1.000269
7500.0	776.5	22.3	53.3	909.1	672.0	288.3	1.7	1.000265
8000.0	762.9	20.9	55.7	897.7	670.3	300.4	3.0	1.000261
8500.0	749.6	19.5	58.2	886.4	668.7	305.3	4.3	1.000256
9000.0	736.4	18.1	60.6	875.3	667.0	309.6	5.1	1.000251
9500.0	723.6	16.6	63.0	864.4	665.3	314.0	5.6	1.000247
10000.0	710.8	15.3	64.4	853.3	663.7	319.9	5.8	1.000241
10500.0	698.2	14.4	62.1	841.1	662.5	328.4	5.6	1.000234
11000.0	685.7	13.3	62.7	829.4	661.2	340.5	5.8	1.000229
11500.0	673.4	12.2	63.3	817.8	659.8	353.0	6.4	1.000224
12000.0	661.4	11.1	63.9	806.5	658.5	357.1	7.1	1.000219
12500.0	649.3	10.0	63.7	795.2	657.1	357.7	7.8	1.000214
13000.0	637.4	8.8	63.4	784.1	655.6	354.9	8.4	1.000209
13500.0	625.8	7.7	63.2	773.1	654.2	353.7	9.0	1.000204
14000.0	614.3	6.5	62.9	762.3	652.7	352.9	9.7	1.000199
14500.0	603.1	5.4	62.6	751.6	651.3	353.7	10.7	1.000195
15000.0	592.0	4.2	62.3	741.1	649.9	354.3	11.7	1.000190
15500.0	581.2	3.1	61.9	730.6	648.6	354.7	12.8	1.000186
16000.0	570.4	2.4	62.4	719.8	647.7	355.1	13.6	1.000183
16500.0	559.7	1.2	66.2	708.5	646.3	355.4	14.0	1.000180
17000.0	549.2	.1	70.1	698.2	644.9	354.0	13.7	1.000177
17500.0	538.9	-1.1	71.5	688.2	643.5	349.7	12.6	1.000174
18000.0	528.7	-2.4	70.3	678.5	641.9	344.7	11.3	1.000170
18500.0	518.7	-3.6	75.3	668.7	640.4	338.4	10.1	1.000167
19000.0	508.8	-4.8	74.5	658.9	639.0	333.7	10.3	1.000165
19500.0	499.1	-5.1	70.0	647.1	638.6	331.0	10.9	1.000160
20000.0	489.5	-5.8	59.1	635.6	637.5	330.5	11.8	1.000154
20500.0	480.1	-6.4	52.1	623.1	636.7	335.3	11.2	1.000150
21000.0	470.8	-7.0	47.5	615.4	635.0	339.7	10.3	1.000146
21500.0	461.7	-7.5	42.9	604.8	633.3	340.3	9.0	1.000143
22000.0	452.8	-8.1	38.3	594.4	631.6	339.7	7.8	1.000139
22500.0	444.1	-8.6	33.7	584.2	630.9	338.2	6.5	1.000136
23000.0	435.4	-9.2	23.4	574.3	630.2	341.9	6.5	1.000133
23500.0	427.0	-9.9	35.7	564.5	632.4	345.4	6.5	1.000131

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LONG DEG

UPPER AIR DATA
2150100175
LC-37

STATION ALTITUDE 4051.37 FEET MSL
3 AUG. 61 1430 HRS MDT
ASCENSION, MO. 175

TABLE 19 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
24000.0	410.6	-11.0	35.7	555.4	631.0	347.0	5.6	1.000129
24500.0	410.4	-12.2	35.4	547.4	629.6	357.0	4.4	1.000127
25000.0	402.3	-13.4	35.1	539.1	628.1	34.9	3.4	1.000124
25500.0	394.3	-14.5	35.3	530.7	626.8	65.9	4.8	1.000122
26000.0	386.5	-15.6	35.8	522.4	625.4	75.9	7.3	1.000120
26500.0	378.8	-16.4	43.6	513.6	624.5	77.1	7.9	1.000119
27000.0	371.2	-17.2	43.1	504.9	623.4	77.0	7.9	1.000116
27500.0	363.8	-18.2	33.7	496.8	622.2	72.8	7.3	1.000114
28000.0	356.4	-19.2	32.7	488.7	621.0			1.000111
28500.0	349.2	-20.2	33.5	480.6	619.8			1.000109
29000.0	342.1	-21.1	34.3	472.6	618.6			1.000108

STATION ALTITUDE 4051.37 FEET MSL
3 AUG. 61 1430 HRS MDT
ASCENSION I.O. 175

MANDATORY LEVELS
2150160175
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 20

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRAH	DEWPOINT DEGREES CENTIGRAH		DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	4877.	29.7	14.7	40.	102.0	2.4
800.0	6640.	24.8	13.3	49.	273.4	.8
750.0	8484.	19.5	11.1	58.	305.2	4.3
700.0	10418.	14.6	7.4	62.	327.0	5.7
650.0	12462.	10.1	3.5	64.	357.9	7.7
600.0	14630.	5.1	-1.5	62.	353.9	10.9
550.0	16943.	.2	-4.7	70.	354.3	13.8
500.0	19426.	-5.0	-9.4	71.	331.0	10.8
450.0	22128.	-8.2	-20.3	37.	339.3	7.4
400.0	25102.	-13.7	-25.8	35.	46.7	3.4
350.0	28392.	-20.0	-32.0	33.		

STATION ALTITUDE 3989.00 FEET MSL
3 AUG. 51 1530 HRS MDT
ASCENDING 10. 504

SIGNIFICANT LEVEL DATA
2150020504
WHITE SANDS

TABLE 21

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	
876.0 3989.0	28.9	17.1	49.0
856.0 4637.3	28.2	15.1	45.0
850.0 4869.1	26.0	13.2	45.0
819.0 5951.2	25.2	13.1	47.0
762.0 7983.8	20.9	11.0	53.0
700.0 10397.1	13.0	7.9	71.0
690.0 10794.7	11.5	8.5	82.0
672.0 11521.8	10.5	6.0	77.0
654.4 12247.6	8.3	5.9	65.0
603.2 14447.7	3.9	-9	71.0
586.0 15221.2	3.4	-3.4	61.0
553.2 16749.8	-1	-0.3	63.0
544.8 17153.3	.1	-0.3	62.0
536.6 17551.6	-2.4	-8.5	63.0
528.2 17963.7	-2.8	-7.7	69.0
504.4 19162.7	-4.7	-10.4	64.0
500.0 19389.3	-5.7	-10.6	67.0
480.6 20408.4	-6.9	-14.8	53.0
457.6 21666.8	-7.5	-15.4	53.0
442.8 22505.4	-10.0	-19.4	46.0
427.8 23379.4	-10.6	-17.0	59.0
420.6 23808.6	-11.5	-21.3	44.0
400.0 25070.0	-14.0	-24.1	42.0
363.8 27416.0	-19.5	-29.6	40.0
343.4 28822.3	-21.5	-32.2	37.0
324.2 30210.7	-24.4	-36.9	30.0
305.0 31665.0	-27.8	-38.2	36.0
300.0 32054.8	-30.3	-40.2	37.0

STATION ALTITUDE 389.00 FEET MSL
3 AUG. 51 1530 HRS MDT
ASCENSION NO. 504

UPPER AIR DATA
2150020504
WHITE SAILS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

TABLE 22

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (IN) SPEED KNOTS	INDEX OF REFRACTION
389.0	870.0	28.9	49.0	1001.8	679.9	250.0	1.000305
4000.0	875.7	28.9	49.9	1001.5	679.9	249.9	1.000304
4500.0	860.8	28.3	45.8	986.9	679.1	242.5	1.000294
5000.0	840.2	25.9	45.2	979.0	676.0	230.5	1.000282
5500.0	831.7	25.5	46.2	965.3	675.6	209.6	1.000279
6000.0	817.4	25.1	47.1	948.1	675.1	179.9	1.000275
6500.0	803.3	24.0	48.6	935.2	673.9	153.6	1.000271
7000.0	789.4	23.0	50.1	922.4	672.7	133.5	1.000266
7500.0	775.8	21.9	51.6	909.8	671.4	121.9	1.000262
8000.0	762.4	20.8	53.1	897.5	670.2	115.1	1.000257
8500.0	748.9	19.2	56.9	880.7	669.3	108.5	1.000254
9000.0	735.7	17.6	60.6	870.0	668.3	98.5	1.000250
9500.0	722.7	15.9	64.3	865.0	667.4	81.5	1.000246
10000.0	710.0	14.3	68.0	855.3	666.5	58.4	1.000242
10500.0	697.4	12.6	73.8	845.2	665.9	36.8	1.000238
11000.0	684.9	11.2	80.6	834.0	659.9	28.4	1.000236
11500.0	672.5	10.5	77.2	821.5	658.0	22.6	1.000229
12000.0	660.4	9.1	82.5	810.7	656.2	19.1	1.000226
12500.0	648.3	7.8	83.4	799.7	654.7	16.0	1.000221
13000.0	636.4	6.8	80.2	788.2	653.4	12.9	1.000214
13500.0	624.7	5.8	77.0	776.9	652.1	9.0	1.000208
14000.0	613.3	4.8	73.8	765.7	650.8	4.7	1.000202
15000.0	590.4	3.5	70.3	754.4	649.6	4.6	1.000196
15500.0	579.0	2.8	67.9	741.5	649.1	4.6	1.000190
16000.0	569.1	1.6	61.4	730.0	648.1	4.5	1.000185
16500.0	559.4	.5	62.0	719.4	646.7	3.6	1.000182
17000.0	549.6	.0	62.7	709.1	645.3	2.6	1.000178
17500.0	537.7	-2.1	62.4	697.0	644.7	2.4	1.000175
18000.0	527.5	-2.9	62.9	689.4	644.2	3.1	1.000171
18500.0	517.4	-3.6	68.8	678.2	641.3	3.0	1.000169
19000.0	507.6	-4.4	68.9	667.5	640.3	2.5	1.000165
19500.0	497.9	-5.8	68.7	656.6	639.3	2.2	1.000161
20000.0	488.3	-6.4	68.5	647.5	637.6	1.9	1.000158
20500.0	478.9	-6.9	58.6	636.6	636.4	7.0	1.000154
21000.0	469.6	-7.2	53.0	625.7	635.1	14.6	1.000150
21500.0	460.6	-7.4	53.0	614.7	633.8	25.5	1.000147
22000.0	451.7	-8.5	53.0	602.9	633.5	40.5	1.000144
22500.0	442.9	-10.0	50.2	593.7	634.2	47.2	1.000141
23000.0	433.2	-10.3	46.0	585.0	634.3	52.6	1.000138
			43.4	574.9	632.9	54.6	1.000136

STATION ALTITUDE 3489.00 FEET MSL
 3 AUG. 63 1530 HRS MDT
 ASCENSION NO. 304

UPPER AIR DATA
 2150020504
 WHITE SMUDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.57033 LON DEG

TABLE 22

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		TEMP	DEWPOINT				DIRECTION DEGREES (M)	SPEED KNOTS	
23500.0	425.8	-10.9	-10.1	54.8	564.7	631.4	57.2	6.2	1.000134
24000.0	417.4	-11.9	-21.7	43.7	556.0	630.0	62.2	6.3	1.000130
24500.0	409.2	-12.9	-22.8	42.9	547.2	628.8	65.1	6.5	1.000127
25000.0	401.1	-13.9	-23.9	42.1	538.5	627.6	59.6	6.8	1.000125
25500.0	393.1	-15.0	-25.1	41.6	530.1	626.2	53.4	7.1	1.000123
26000.0	385.2	-16.2	-26.3	41.2	521.9	624.7	59.4	7.1	1.000120
26500.0	377.5	-17.4	-27.5	40.8	513.8	623.3	29.7	7.2	1.000118
27000.0	370.0	-18.5	-28.6	40.4	505.9	621.8	30.0	6.4	1.000116
27500.0	362.5	-19.6	-29.8	39.8	497.9	620.5	33.0	5.8	1.000114
28000.0	355.2	-20.3	-30.7	38.8	489.2	619.6	57.7	6.3	1.000112
28500.0	348.0	-21.0	-31.6	37.7	480.6	618.7	75.4	7.5	1.000110
29000.0	340.9	-21.9	-32.8	36.1	472.4	617.7	88.6	8.6	1.000108
29500.0	333.9	-22.9	-34.5	33.6	464.7	616.4	102.2	9.0	1.000105
30000.0	327.0	-24.0	-36.2	31.1	457.1	615.1	108.6	8.7	1.000103
30500.0	320.3	-25.1	-37.2	31.2	449.6	613.7	114.2	8.2	1.000102
31000.0	313.6	-26.2	-37.6	33.3	442.4	612.2	118.7	7.5	1.000100
31500.0	307.1	-27.4	-38.0	35.3	435.3	610.8			1.000098
32000.0	300.7	-29.9	-39.9	36.9	430.6	607.6			1.000097

STATION ALTITUDE 3909.00 FEET MSL
 3 AUG. 81 1530 HRS MDT
 ASCENSION I.O. JMW

PARAMATORY LEVELS
 2150020504
 WHITE SANDS

TABLE 23

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUMID. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES (TN)	SPEED KNOTS
650.0	4866.	26.0	13.2	45.	234.2	6.5
600.0	6616.	23.8	12.4	49.	148.6	4.6
750.0	8457.	19.3	10.5	57.	108.9	5.7
700.0	10387.	13.0	7.9	71.	39.9	5.8
650.0	12418.	7.0	5.4	64.	16.5	14.5
600.0	14573.	3.6	-1.3	69.	4.6	14.3
550.0	16831.	-0.0	-6.3	63.	2.2	11.9
500.0	19302.	-5.7	-10.6	67.	2.0	15.5
450.0	22061.	-8.8	-17.4	49.	48.5	5.1
400.0	25027.	-14.0	-24.1	42.	59.1	6.8
350.0	28367.	-20.8	-31.4	36.	70.5	7.1
300.0	31990.	-30.3	-40.2	37.		

DATE
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-8